

Matthew Sartwell

<http://matsarj.github.io>

Email : matsarj@gmail.com

Mobile : 716-289-3527

EDUCATION

- **University of Buffalo** Buffalo, NY
PhD, MA, Mathematics Aug 2010 – Jun 2016
- **State University of New York at Oswego** Oswego, NY
BA, Mathematics Aug 2008 – Jun 2010

Relevant Coursework: Machine Learning, Algorithms and Data Structures, Numerical Analysis, Statistics, Ordinary and Partial Differential Equations, Economics. Attended graduate seminar on topological data analysis at MSRI in Berkeley.

EXPERIENCE

- **Healthcare Analyst** Buffalo, NY
BPAS Feb 2017 - Present
 - **R, Statistics:** Developed code to apply time series techniques and Monte Carlo simulation to predict claims reserves and determine confidence intervals.
 - **SQL:** Used SQL to analyze claims data in order to help our self-insured clients choose a third party administrator.
 - **Python, SAS:** Converted Health and Human Services risk scoring model from SAS to Python. Developed internal risk scoring model using unsupervised learning methods to group diagnoses.
 - **VBA:** Wrote VBA modules to automate the data cleaning and report generation processes.
- **Data Analyst** Rochester, NY
HB Solutions Oct 2016 - Feb 2017
 - **SSIS, ETL (Extract-Transform-Load):** Loaded messy census data into SQL staging database with SSIS. Diagnosed and fixed issues with complex SQL queries before loading into the data warehouse.
 - **PowerShell:** Wrote and reviewed PowerShell scripts to aid in automating the data cleaning process.
- **University of Buffalo** Buffalo, NY
Instructor Summer 2012 and 2013
 - **Presentation:** Wrote and presented lectures on topics in mathematics, statistics, and economics.
 - **LaTeX:** Wrote homeworks, quizzes, exams, and beamer presentations using the LaTeX typesetting language.

RELEVANT SKILLS

- **Python:** Including common data analysis and visualization libraries: pandas, numpy, scipy, beautifulsoup, sklearn, pyDatalog, matplotlib, seaborn, plotly. Sample Jupyter notebook can be found at:
- **R:** Including common data analysis and visualization libraries: dplyr, tidyr, fitdistrplus, ggplot2, plotly. Sample Jupyter notebook can be found at:
- **SQL:** Wrote complex queries and stored procedures. Familiar with joins, subqueries, aggregate functions and having clauses, temporary tables, cursors.
- **Tableau:** Used Tableau to develop interactive visualizations during exploratory data analysis phase. A demo I made for work can be found at:
- **Excel, VBA:** Expertise in Microsoft Excel, utilizing keyboard shortcuts and macros, with extensive VBA experience.
- **Nonprogramming Skills:** Knowledge of probability, statistics, time series, and several supervised and unsupervised machine learning algorithms as well as methods to increase performance without overfitting. Notes on several of these topics can be found at

EXTRACURRICULAR

- **Seminars:** Started and led several research seminars while in graduate school.
- **Data Science Learning Group:** Meet with a group of colleagues after work to show them how to use Python and R and to learn new topics in data science.
- **Python Meetups:** Attended Python and data science meetups in Buffalo and Seattle.